

IN THE CLAIMS

Please amend the claims as follows:

1. (currently amended) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, ~~characterized in that~~ comprising:

in the course of pulling the single crystal semiconductor, adjusting a rotating velocity of the single crystal semiconductor being pulled ~~is adjusted to a predetermined value or higher, and a magnetic field having a strength in a predetermined range is applied to the melt,~~

controlling a ratio of M to V where M denotes a magnetic field strength applied to the melt and V denotes a volume of the melt, thereby distributing the impurities in a uniform fashion.

2. (currently amended) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, ~~characterized in that~~ comprising:

in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled ~~is adjusted to 0.126 m/sec or higher, and~~

applying a magnetic field ~~is applied to the melt to satisfy the condition:~~

$$35.5 \leq M/V^{1/3} \leq 61.3$$

Where M denotes a magnetic field strength at the bottom of the crucible, and V denotes a volume of the melt within the crucible.

3. (cancelled)

4. (currently amended) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, ~~characterized in that~~ comprising:

applying a magnetic field ~~is applied~~ to the melt to satisfy the condition:

$$35.5 \leq M/V^{1/3} \leq 61.3$$

where M denotes a magnetic field strength at the bottom of the crucible, and V denotes a volume of the melt within the crucible.

5. (currently amended) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, ~~characterized in that~~ comprising:

in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled ~~is adjusted~~ to 0.141 m/sec or higher and,

applying a magnetic field ~~is applied~~ to the melt to satisfy the condition:

$$40.3 \leq M/V^{1/3} \leq 56.4$$

where M denotes a magnetic field strength at the bottom of the crucible, and V denotes a volume of the melt within the crucible.

6. (original) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, characterized in that:

in the course of pulling the single crystal semiconductor, a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled is adjusted to 0.141 m/sec or higher.

7. (original) A method for manufacturing a single crystal semiconductor doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, characterized in that:

a magnetic field is applied to the melt to satisfy the condition:

$$40.3 \leq M/V^{1/3} \leq 56.4$$

where M denotes a magnetic field strength at the bottom of the crucible, and V denotes a volume of the melt within the crucible.

8. (cancelled)

9. (cancelled)

10. (currently amended) The method for manufacturing a single crystal semiconductor according to claim 2, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

11. (currently amended) The method for manufacturing a single crystal semiconductor according to claim 2, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

12. (currently amended) ~~The~~ A method for manufacturing a single crystal semiconductor according to claim 2, doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, characterized in that comprising:
in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled to 0.126 m/sec or higher,
wherein:

the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

13. (currently amended) ~~The~~ A method for manufacturing a single crystal semiconductor according to claim 2, doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same, characterized in that comprising:
in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled to 0.126 m/sec or higher,
wherein:

the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

14. (currently amended) The method for manufacturing a single semiconductor according to claim 4, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

15. (currently amended) The method for manufacturing a single semiconductor according to claim 4, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

16. (currently amended) The method for manufacturing a single semiconductor according to claim 5, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

17. (currently amended) The method for manufacturing a single semiconductor according to claim 5, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

18. (currently amended) ~~The~~ A method for manufacturing a single crystal semiconductor according to claim 6 doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same ~~characterized in that~~ comprising:

in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled to 0.141 m/sec or higher,
wherein:

the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

19. (currently amended) ~~The~~ A method for manufacturing a single crystal semiconductor according to claim 6 doped with an impurity by immersing a seed crystal in a melt within a crucible and pulling the seed crystal while rotating the same characterized in that comprising:
in the course of pulling the single crystal semiconductor, adjusting a peripheral velocity at the outer periphery of the single crystal semiconductor being pulled to 0.141 m/sec or higher,
wherein:

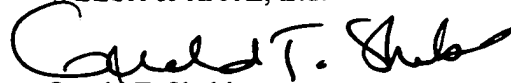
the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

20. (currently amended) The method for manufacturing a single semiconductor according to Claim 7, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is boron B or gallium Ga, the impurity concentration being 8.0×10^{17} atoms/cc or higher.

21. (currently amended) The method for manufacturing a single semiconductor according to Claim 7, ~~characterized in that~~ wherein the impurity added to the single crystal semiconductor is phosphorus P or antimony Sb or arsenic As, the impurity concentration being 5.0×10^{17} atoms/cc or higher.

Respectfully submitted,

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